

## Claims

1. A position sensor designed in the form of a Hall  
sensor, comprising an elongated circuit substrate (32)  
designed as a molded interconnect device (MID), which  
includes an elongated support element (34) consisting of  
injection molded plastic material and having at a front  
end side (37) thereof a support face (36) which is so  
fitted with a sensor element (26) including a Hall plate  
(27) or constituted by a Hall plate (27) that the plane  
(29) of the Hall plate (27) extends at a right angle to  
the longitudinal axis (33) of the circuit substrate (32),  
the sensor element (26) being electrically contacted by  
means of printed wiring (35) constituted by a structured  
metal layer applied to the support element (34).

2. The position sensor as set forth in claim 1,  
characterized in that an electrical lead (38) extends from  
the rear side, opposite to the front end side (37), of the  
circuit substrate (32), electrical conductors (42) of the  
lead being contacted by printed wiring (35) of the circuit  
substrate (32).

3. The position sensor as set forth in claim 2,  
characterized that the printed wiring (35) extends on its  
path between the sensor element (26) and the electrical  
conductors (42) of the lead (38) at least partially at the  
bottom side of the support element (34).

4. The position sensor as set forth in any one of the claims 1 through 3, characterized in that the printed wiring (35) extends at least partially in recesses (44) in the support element (34) and is covered in a hermetically sealing fashion by filler material applied to the recesses (44).

5. The position sensor as set forth in any one of the claims 1 through 4, characterized in that the support element (34) is fitted with electronic components (43) on the printed wiring (35).

6. The position sensor as set forth in any one of the claims 1 through 5, characterized in that the sensor element (26) and the printed wiring (35) and furthermore any electronic components (43) provided on the support element are encapsulated in a casing body (46) of plastic material, which is molded in position by injection molding on the support element (34).

7. The position sensor as set forth in claim 6, characterized in that the material of the casing body (46) is transparent to light so that optical signals of encapsulated optical display means (43') may emerge.

8. The position sensor as set forth in any one of the claims 1 through 7, characterized in that the support face (36) for the sensor element (26) is orientated in the longitudinal direction (33) of the circuit substrate (32), a normal to its face being more especially co-directional with the longitudinal axis (33) of the circuit substrate (32).

9. The position sensor as set forth in claim 8, characterized in that the support face (36) is provided

directly on the front end side of the support element (34).

5        10. The position sensor as set forth in any one of the claims 1 through 9, characterized in that the front end region of the (34) is constituted by a T-like support section (47) which, together with a connecting neck (48) extending in the longitudinal direction in the middle and with an adjoining transversely extending support board  
10        (49), defines the support face (36).

15        11. The position sensor as set forth in any one of the claims 1 through 10, characterized in that the sensor element (26) is a Hall chip provided with an evaluating electronic system, as for example an ASIC, in addition to the Hall plate (27).

20        12. The position sensor as set forth in any one of the claims 1 through 11, characterized in that between the front and the rear end region of the circuit substrate (32) an attachment means (55) is provided for releasable clamping attachment of the position sensor (7) in an attachment slot (8) in another component (2).

25        13. The position sensor as set forth in claim 12, characterized by a single attachment means (55) placed on the circuit substrate (32) in longitudinal middle thereof.

30        14. The position sensor as set forth as set forth in any one of the claims 1 through 13, which is designed to be placed during use in such a fashion in an attachment slot (8) in a component (2) that its longitudinal axis extends parallel to the longitudinal axis (17) of the attachment slot (8) and possesses attachment means (15)  
35        rendering possible a detachable clamping attachment in the

attachment slot (8).

5        15. The position sensor as set forth in any one of  
the claims 1 through 14, characterized in that the circuit  
substrate (32) at least partially constitutes the sensor  
housing.

10       16. The position sensor as set forth in any one of  
the claims 1 through 14, characterized by a further Hall  
sensor element (54) whose Hall plate (54') whose alignment  
is unlike that of the Hall plate (27) of the other sensor  
element (26).